

Amendment
Application No. 10/604,826
Attorney Docket No. 031009

REMARKS

Claims 1-3 and 7-11 are pending in this application, of which claim 1 has been amended.

Claims 4-6 have been cancelled in this Response. No new claims have been added.

(1) Claims 1-3, 7 and 8 were rejected under 35 U.S.C. §103(a) as being unpatentable over Wang et al. (U.S. Patent No. 6,159,636) in view of Itagaki et al. (U.S. Patent No. 6,767,671). Also, claims 10 and 11 were rejected under 35 U.S.C. §103(a) as being unpatentable over Wang et al. (U.S. Patent No. 6,159,636) in view of Itagaki et al. (U.S. Patent No. 6,767,671), and further in view of Mabushi et al. (U.S. Patent No. 6,156,432).

Claim 1 has been amended to incorporate the limitations of claim 6, so the rejection is made moot.

(2) Claims 4, 5 and 6 were rejected under 35 U.S.C. §103(a) as being unpatentable over Wang et al. (U.S. Patent No. 6,159,636) in view of Itagaki et al. (U.S. Patent No. 6,767,671), and further in view of Suzuki et al. (U.S. Pre-Grant Publication No. 2004/0072072)

(i) None of the cited references discloses the claimed content of the unsaturated cyclic carbonic acid ester having double bond of carbon as recited in amended claim 1, or the claimed content of vinylene carbonate as recited in claim 7. The Examiner states that Wang et al.

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do not disclose the claimed unsaturated cyclic carbonic acid, specified as vinylene carbonate in claim 7, but that Itagaki et al. teach vinylene carbonate (col. 10, line 58). However, Itagaki et al. merely list vinylene carbonate along with other various organic solvents (col. 10, lines 58-67). In Examples of Itagaki et al., ethylene carbonate and diethylene carbonate were used in Itagaki et al., and Itagaki et al. do not disclose any Examples including vinylene carbonate (col. 17, lines 15-16). Further, Itagaki et al. do not disclose the specific content for the unsaturated cyclic carbonic acid, or vinylene carbonate. Thus, there is no motivation to modify Wang et al. in view of Itagaki et al. in order to obtain the invention of amended claim 1.

(ii) Also, as described at paragraphs [0032], [0034] and [0045], Example 1 of the present invention included vinylene carbonate at an amount of 1.3×10^{-4} g per positive electrode capacity 1 mAh; Example 2 included vinylene carbonate at an amount of 2.4×10^{-4} g per positive electrode capacity 1 mAh; Comparative Example 1 included no vinylene carbonate, Comparative Example 4 included vinylene carbonate at an amount of 4.0×10^{-4} g per positive electrode capacity 1 mAh; and Comparative Example 5 included vinylene carbonate at an amount of 7.0×10^{-4} g per positive electrode capacity 1 mAh. Comparing Example 1 with Comparative Example 1, Example 1 showed a higher percentage of capacity retention and a lower amount of Mn deposited on the negative electrode. Please see Table 1 and paragraph [0044]. Also, as shown in paragraph [0049] and Fig. 2, the Examples 1 and 2 showed remarkably improved high rate discharge characteristics over Comparative Examples 4 and 5. Based on the unexpected results

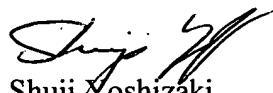
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found in the specific content of the unsaturated cyclic carbonic acid of claim 1 or in the specific content of vinylene carbonate in claim 7, the present invention is not obvious over the cited references. Reconsideration of the rejection is respectfully requested.

(3) In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned representative at the telephone number indicated below to arrange for an interview to expedite the disposition of this case. If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
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